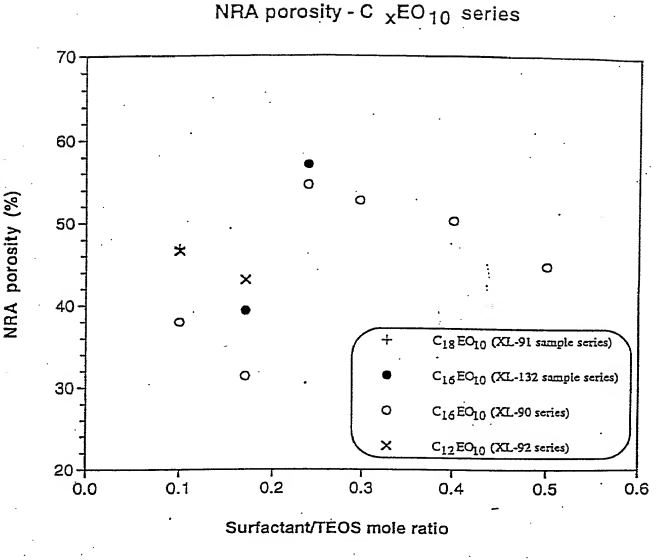
NRA porosity - C xEO10 series
NRA porosity (%)
70
60
50
40
30
20
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Surfactant/TEOS mole ratio
C18EO10 (XL-91 sample series)
C16EO10 (XL-132 sample series)
C16EO10 (XL-90 series)
C12EO10 (XL-92 series)

FIG. 1

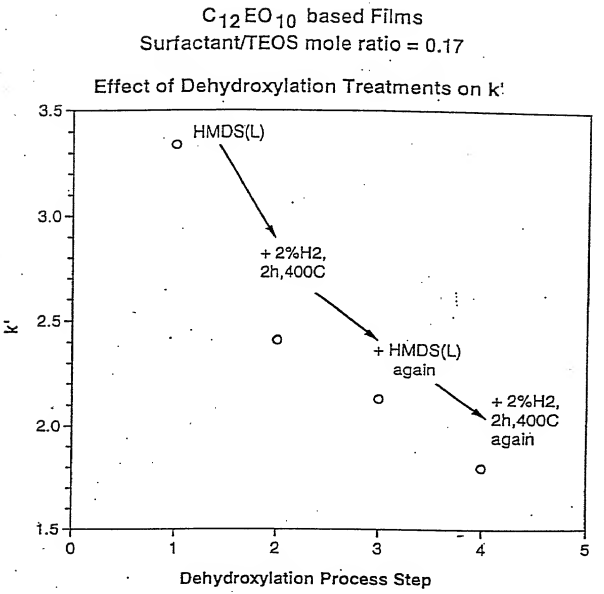
$C_{12}EO_{10}$ based Films
Surfactant/TEOS mole ratio = 0.17
Effect of Dehydroxylation Treatments on k'
HMDS(L)
+ 2%H2, 2h,400C
+ HMDS(L) again
+ 2%H2, 2h,400C again
k'
3.5
3.0
2.5
2.0
1.5
0
1
2
3
4
5
Dehydroxylation Process Step

FIG. 2

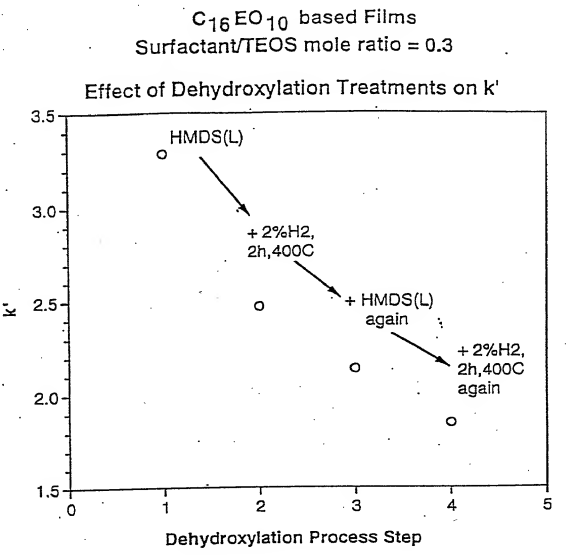

FIG. 3

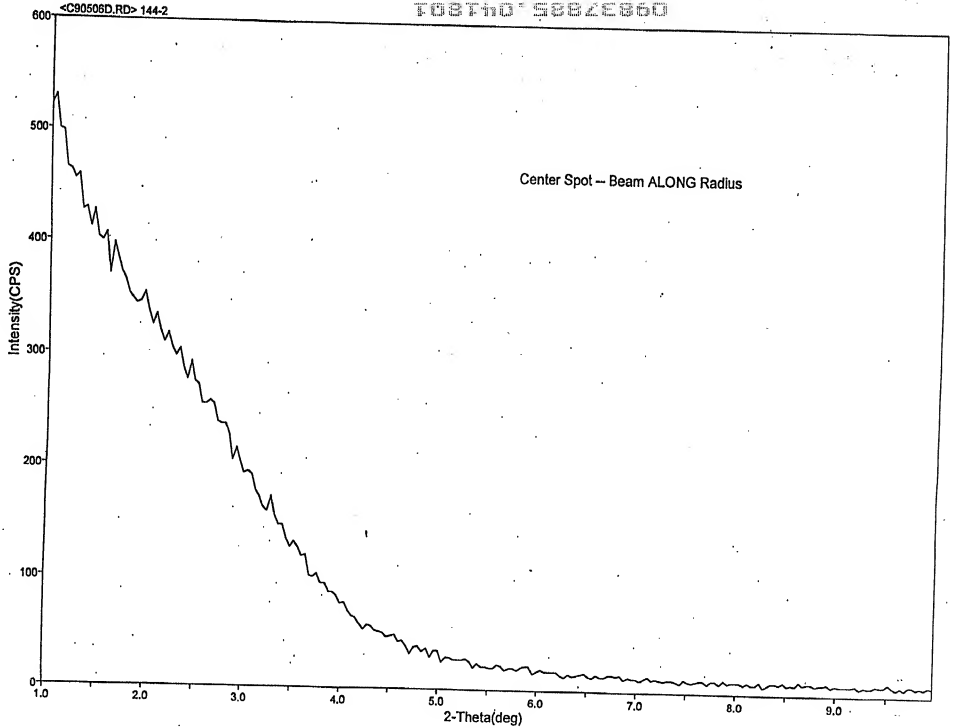

FIG. 4a

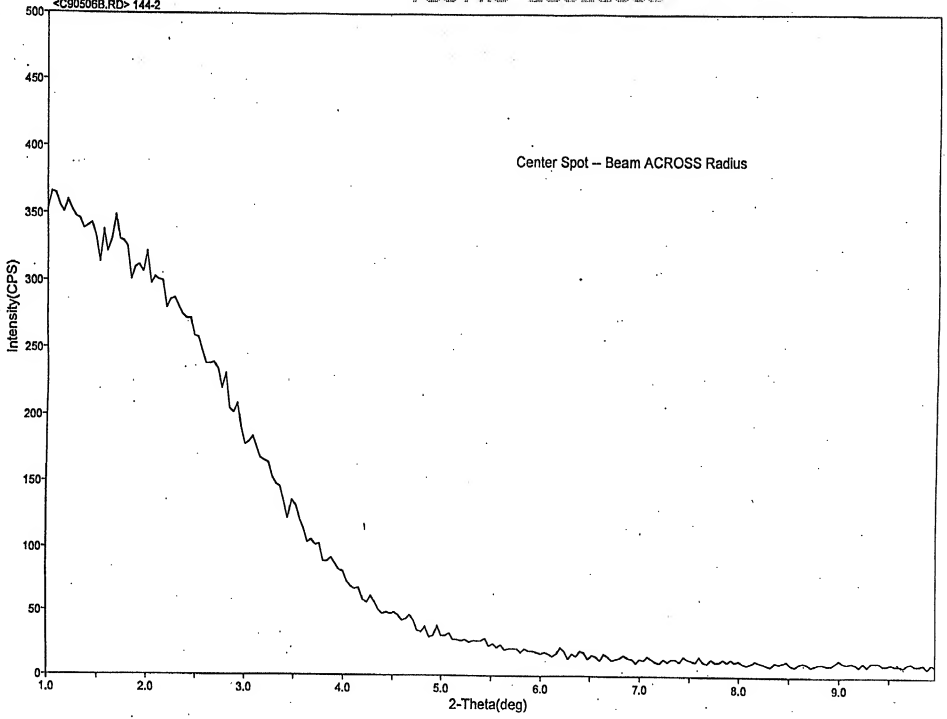

FIG. 4b

TEM micrograph showing ultrafine pores and a disordered pore structure in surfactant-templated mesoporous silica film

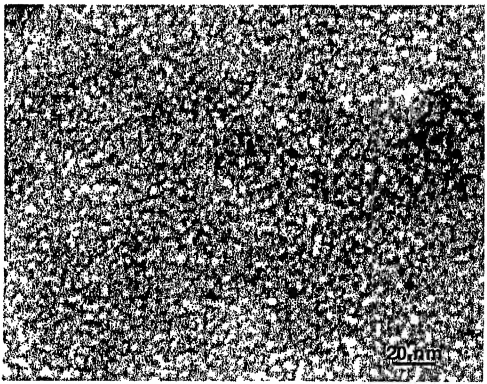

FIG. 5

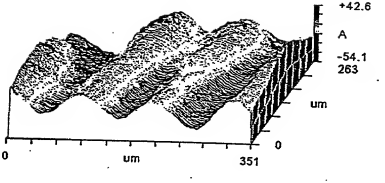

FIG. 6a

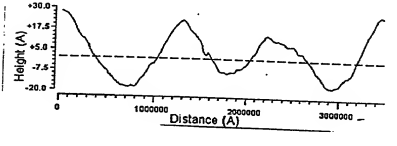

FIG. 6b

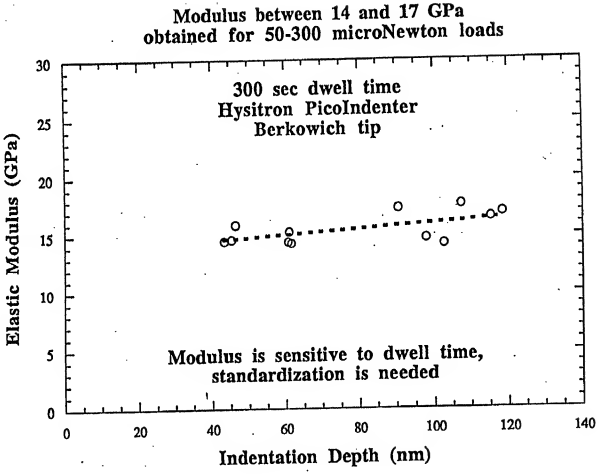

FIG. 7

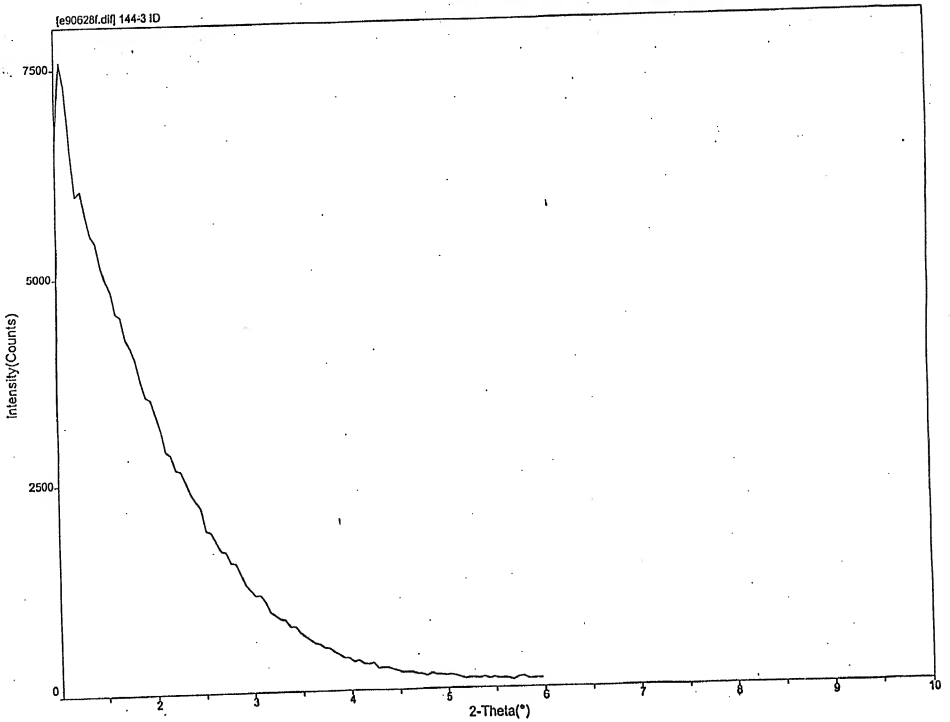

FIG. 8a

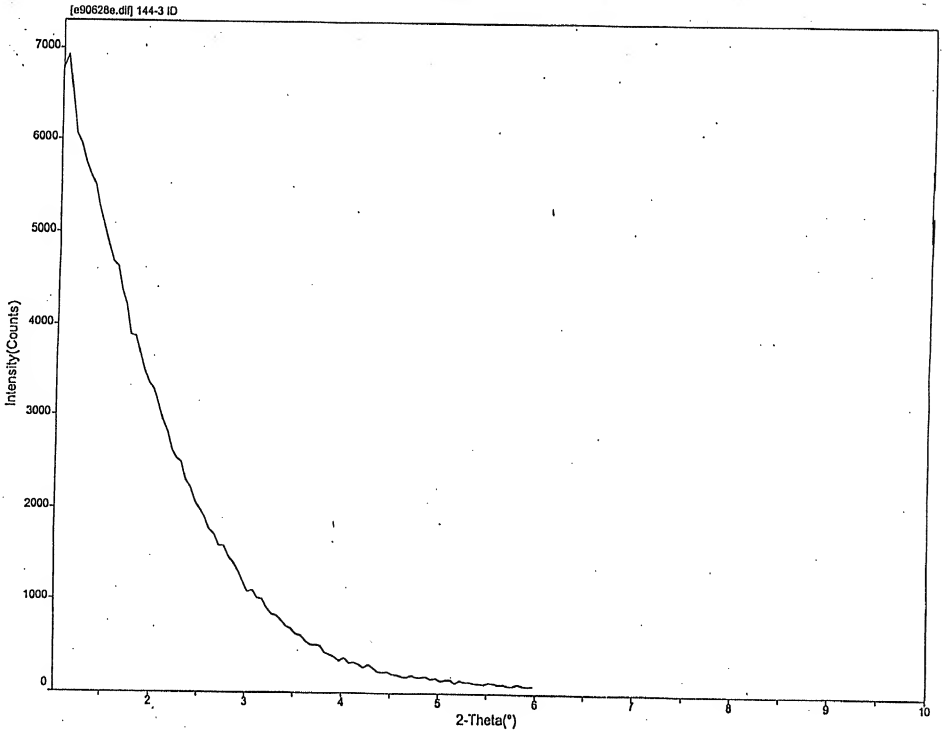

FIG. 8b

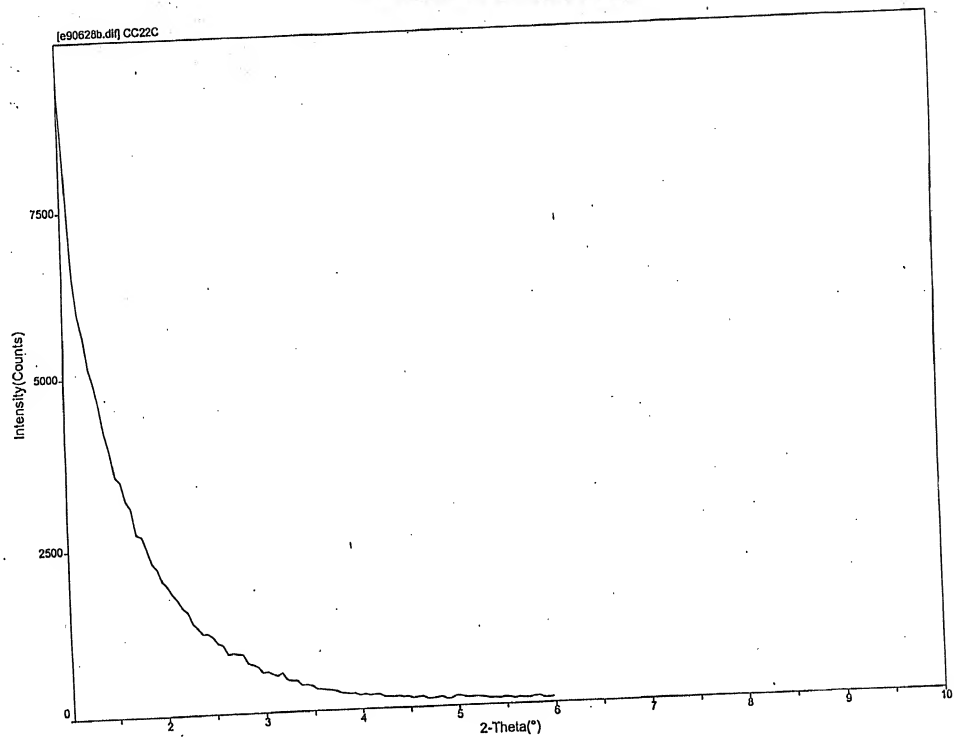
[e90628b.dif] CC22C
Intensity(Counts)
7500
5000
2500
0
2
3
4
5
6
7
8
9
10
2-Theta(°)

FIG. 9a

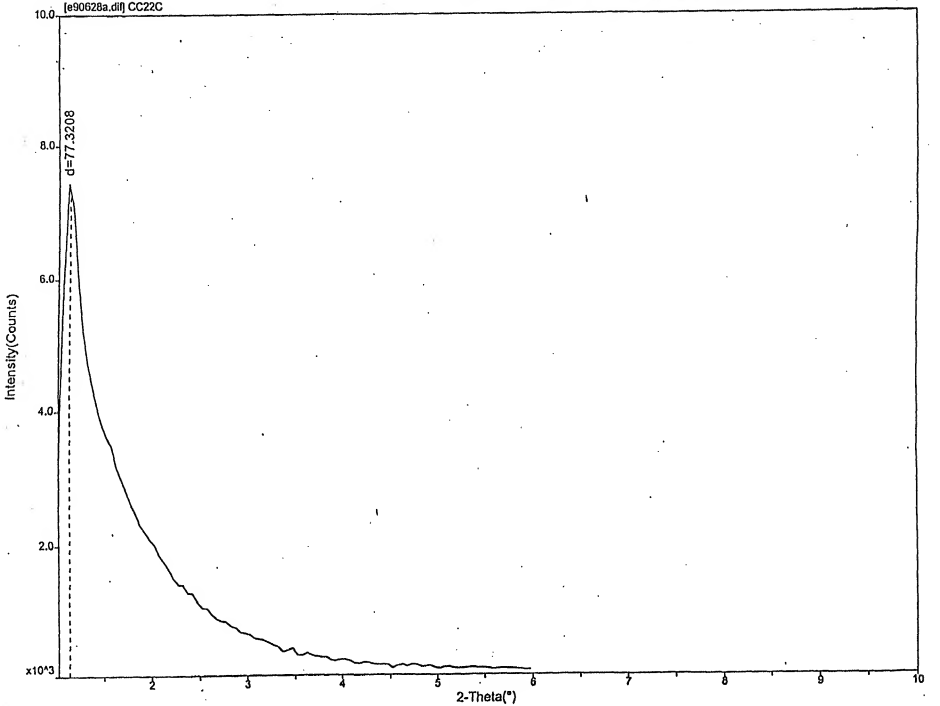

FIG. 9b

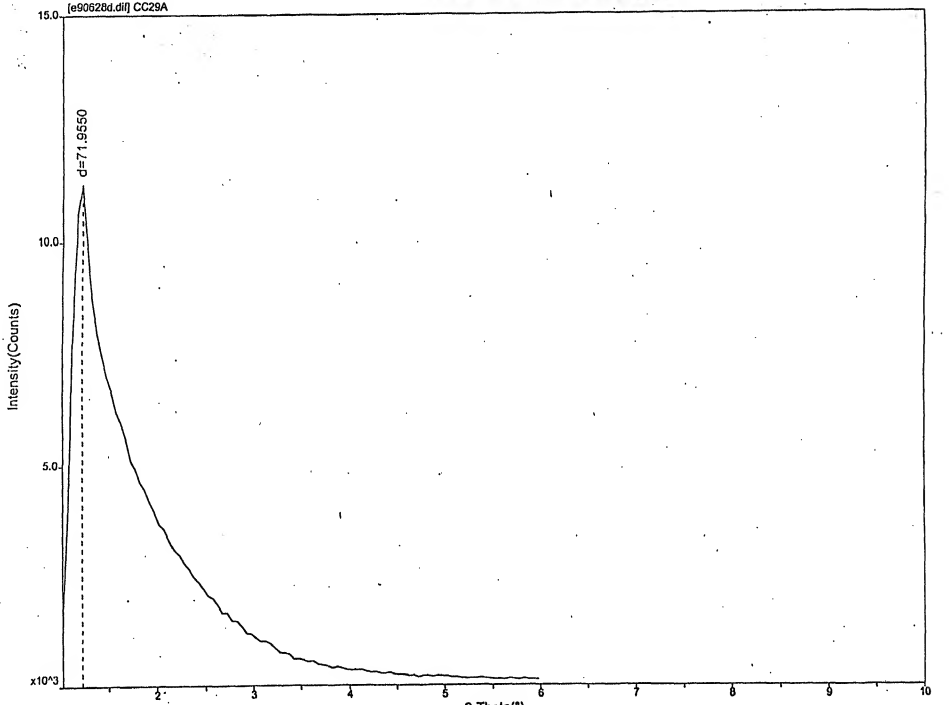
[e90628d.dif] CC29A
d=71.9550
15.0
10.0
5.0
x10^3
Intensity(Counts)
2
3
4
5
6
7
8
9
10
2-Theta(°)

FIG. 10a

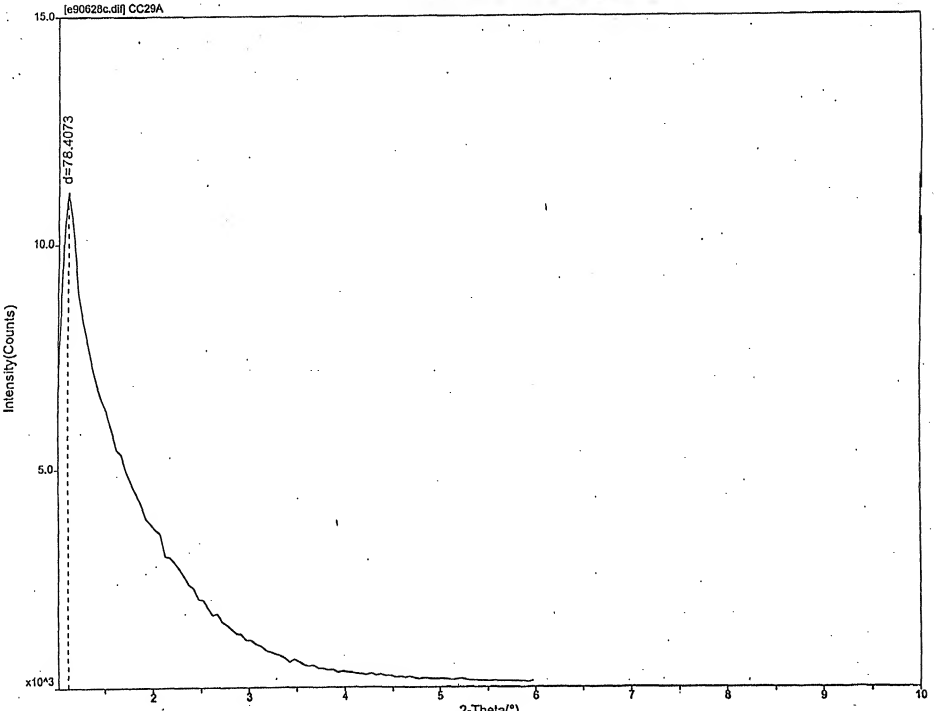

FIG. 10b

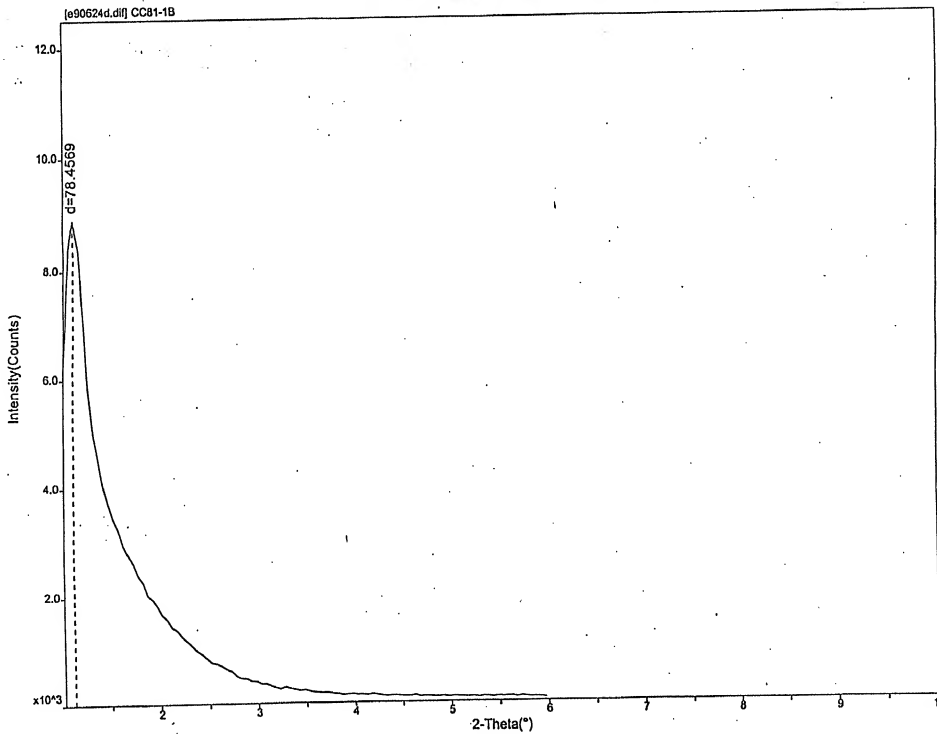

FIG. 11a

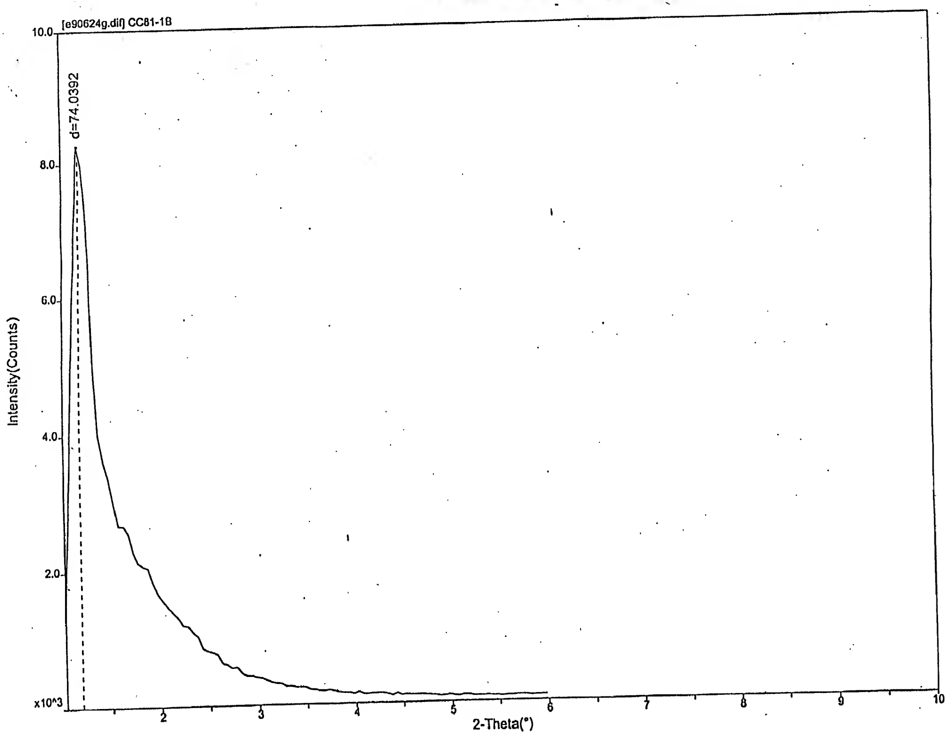
[e90624g.dif] CC81-1B
d=74.0392
Intensity(Counts)
10.0
8.0
6.0
4.0
2.0
x10^3
2
3
4
5
6
7
8
9
10
2-Theta(°)

FIG. 11b

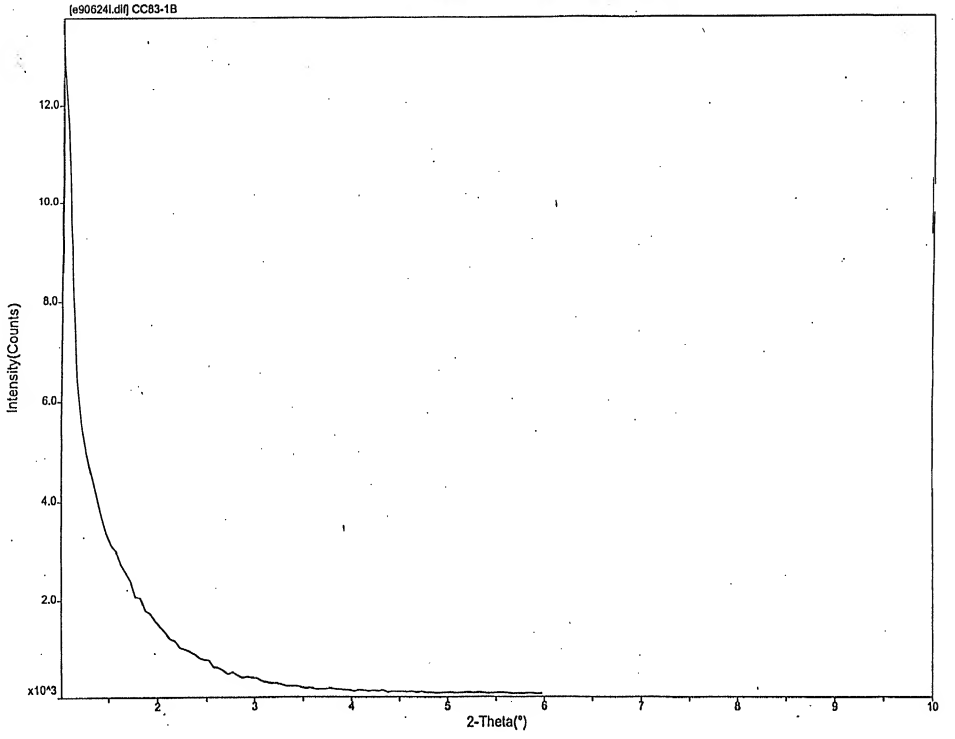

FIG. 12a

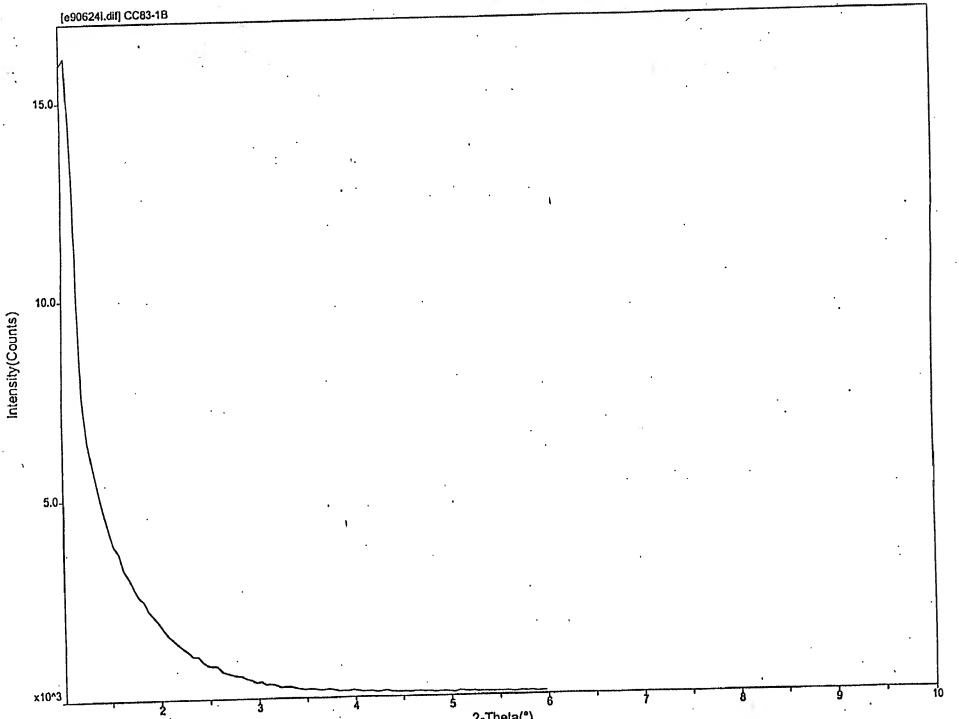

FIG. 12b

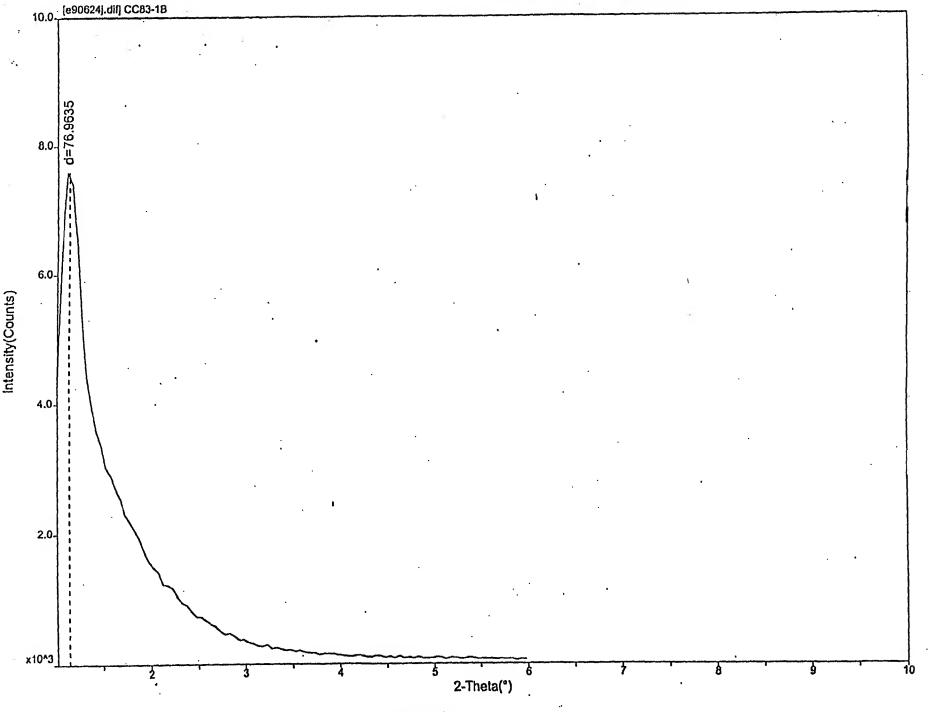

FIG. 12c

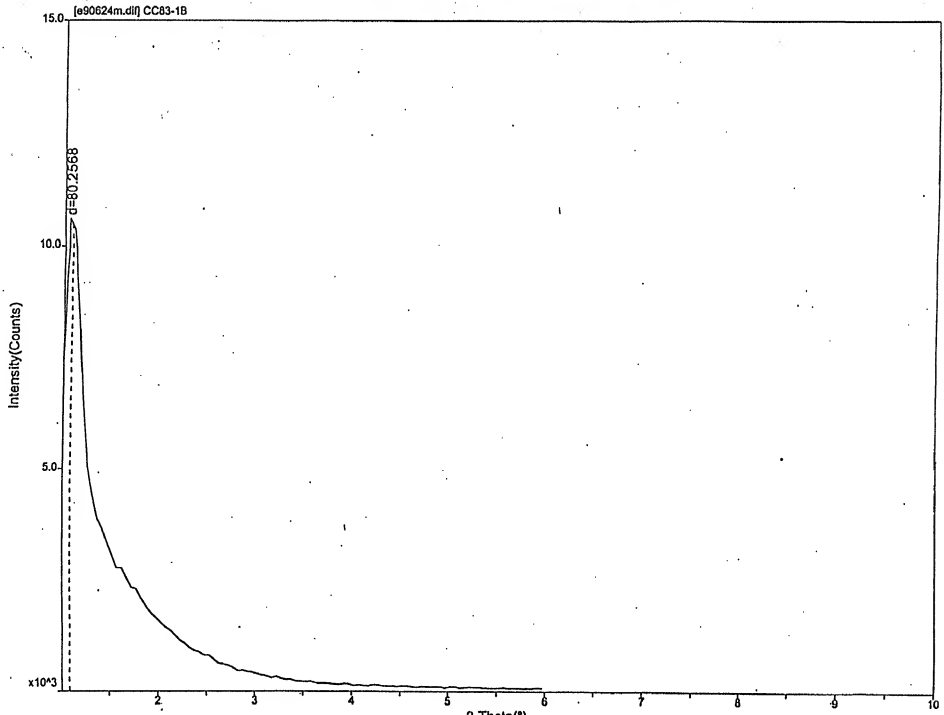

FIG. 12d